



Frederick M. Kalisz, Jr.
Mayor

CITY OF NEW BEDFORD

Department of Public Infrastructure

Ronald H. Labelle
Commissioner

CC: D. Dwyer
C. C. Gerry
Water Division
Wastewater Division
Highways Division

July 21, 2003

File # 118

Mr. Stephen Wood
Environmental Science Services, Inc.
401 Wampanoag Trail, Suite 400
East Providence, Rhode Island 02915

Superfund Records Center
SITE: SULLIVAN'S LEDGE
BREAK: 7.6
OTHER: 560836

Reference: Sullivan's Ledge Monthly Report

Dear Steve,

Enclosed please find the June 2003 operating reports for the Sullivan's Ledge Groundwater Treatment Facility.

Analytical data for effluent samples collected on June 4 and 26 are enclosed.

Our more detailed reports will begin with July's monthly report. Should you have any questions regarding these reports please feel free to contact me.

Sincerely,

James J. Ricci
Superintendent of Water

Cc: James R Heckathorne, O'Brien & Gere
David Lederer, U.S. EPA
Evelinia Vaughan, MA DEP

1 Negus Way
East Freetown, MA
508-763-2231
508-763-4494 (fax)

JAMESR@WWW.CI.NEW-BEDFORD.MA.US



SDMS DocID

560836

SULLIVAN'S LEDGE MONTHLY SUPPLEMENTAL REPORT

June 2003

12th - 10 am - Process went down. Condensation from uv/ox system dripping on leak detector. In response, portable fan was set-up and wooden blocks were placed on floor to keep the leak detector off the floor. At ~ 1:15 pm the plant went back on line.

25th - Process went down at 8:52 pm due to collection trench pump faults - pumps were reset - test was ok - unknown as to cause of failure, although power surge or power loss may have occurred. Plant back on-line 8:20 am on 6/26.

SULLIVAN'S LEDGE SUPERFUND SITE

Ground Water Treatment Plant

Performance Data

Summary

Day	Month/ 2003	Influent Total (gals)	Effluent Total (gals)	Flow Average	Effluent pH Low / High	Chemicals Used - gals			City Water	Notes
						Acid	Capstic	Peroxide		
1	JUNE	76134	69722	48	6.0	31	162	18	319	Process on line. 3 day avg.
2	JUNE	76186	69762	48	6.4	30	166	19	337	Process on line.
3	JUNE	76513	70255	49	6.4	37	158	18	232	Process on line.
4	JUNE	77651	71018	49	6.1	37	158	18	232	Process on line.
5	JUNE	76118	70091	49	6.2	38	165	18	359	Process on line.
6	JUNE	76482	69861	49	6.2	38	152	18	322	Process on line. 3 day avg.
7	JUNE	76482	69861	49	6.2	38	152	18	322	Process on line. 3 day avg.
8	JUNE	76482	69861	49	6.2	38	152	18	322	Process on line. 3 day avg.
9	JUNE	75948	70210	49	6.2	37	154	17	224	Process on line.
10	JUNE	75543	69961	49	6.2	34	151	18	232	Process on line.
11	JUNE	75257	69633	48	6.2	38	154	17	539	Process on line.
12	JUNE	56974	51732	36	6.1	38	128	15	172	Process on line.
13	JUNE	71331	66090	46	6.1	37	164	16	243	Process on line. 3 day avg.
14	JUNE	71331	66090	46	6.1	37	164	16	243	Process on line. 3 day avg.
15	JUNE	71331	66090	46	6.1	37	164	16	243	Process on line. 3 day avg.
16	JUNE	72548	65016	45	6.0	36	160	18	209	Process on line.
17	JUNE	68456	64097	45	6.0	38	187	17	255	Process on line.
18	JUNE	70965	68201	47	6.0	37	151	18		Process on line.
19	JUNE	76178	64444	45	6.1	32	150	16		Process on line.
20	JUNE	57111	50400	35	6.3	32	152	18	795	Process on line. 3 day avg.
21	JUNE	57111	50400	35	6.3	32	152	18	795	Process on line. 3 day avg.
22	JUNE	57111	50400	35	6.3	32	152	18	795	Process on line. 3 day avg.
23	JUNE	75532	64718	45	6.0	29	162	16	202	Process on line.
24	JUNE	75575	64294	45	6.0	34	154	16	194	Process on line.
25	JUNE	33661	31515	22	6.4	20	128	8	195	Process went down, Back on line
26	JUNE	66901	64801	45	6.0	35	154	16	202	Process on line.
27	JUNE	63156	60390	42	6.0	34	150	16	171	Process on line. 3 day avg.
28	JUNE	63156	60390	42	6.0	34	150	16	171	Process on line. 3 day avg.
29	JUNE	63156	60390	42	6.0	34	150	16	171	Process on line. 3 day avg.
30	JUNE	66025	62974	44	6.0	38	169	16	157	Process on line.
	TOTAL	2075404	1902667	1324	184.1	1042	4654	503	8653	

SULLIVAN'S LEDGE SUPERFUND SITE

Ground Water Treatment Plant	Water levels
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Ground Water Treatment Plant	Water levels
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[illegible]



Woods Hole Group

Environmental Laboratories

ANALYTICAL REPORT

Prepared for:

**City of New Bedford
1105 Shawmut Avenue
New Bedford, MA 02746**

Project: Sullivan's Ledge
ETR: 0306155
Report Date: July 10, 2003

Certifications and Accreditations

**Massachusetts MA030
Connecticut PH-0141
New Hampshire 220602
Rhode Island 64
New Jersey MA015
Maine MA030
New York 11627
Louisiana 03090
Army Corps of Engineers
Department of the Navy
Florida E87814**

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CASE NARRATIVE

Woods Hole Group Environmental Laboratories

ETR: 0306155
Project: Sullivan's Ledge

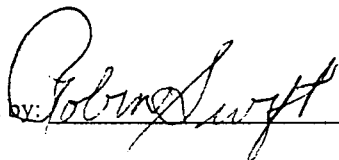
All analyses were performed according to Woods Hole Group's documented Standard Operating Procedures (SOPs), within holding time and with appropriate quality control measures except where noted. Blank correction of results is not performed in the laboratory for any parameter. Soil/sediment samples are reported on a dry weight basis unless otherwise noted.

Volatile Organics by GC/MS

1. Sample Final Eff. (0306155-02) has a recovery for the surrogate Toluene-d8 outside the acceptable QC range of 87-111% at 40% due to sample matrix interference.
2. The Laboratory Control Sample, VW062603L01, had the compounds Trichlorofluoromethane and Acrolein recovered above the upper recovery limit of 130%, at 138% and 183%, respectively, which represents a high bias. These compounds were not detected in the associated sample.

The enclosed results of analyses are representative of the samples as received by the laboratory. Woods Hole Group makes no representations or certifications as to the method of sample collection, sample identification, or transporting/handling procedures used prior to the receipt of samples by Woods Hole Group. To the best of my knowledge, the information contained in this report is accurate and complete.

Approved by:



Title:

Proj. Mgr

Date:

7-10-03



Volatile Organics by GC/MS

Client: **City of New Bedford**
Project: **Sullivan's Ledge**
Client ID: **Final Eff**
Case: **N/A** SDG: **N/A**
Matrix: **Water**

Lab Code: **MA00030**
ETR: **0306155**
Lab ID: **0306155-02**
Associated Blank: **VW062603B01**
Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
06/26/03	06/26/03	06/26/03	5	5	1	MLB

Parameter	Result
Chloromethane	8.8
Vinyl chloride	2.0 U
Bromomethane	18
Chloroethane	3.0
Trichlorofluoromethane	2.0 U
1,1-Dichloroethene	1.0 U
Acrolein	20 U
Acetone	50
Carbon disulfide	2.0 U
Methylene chloride	5.0 U
Methyl tert-butyl ether (MTBE)	2.0 U
trans-1,2-Dichloroethene	2.2
1,1-Dichloroethane	2.0 U
Vinyl acetate	2.0 U
2-Butanone (MEK)	5.8
cis-1,2-Dichloroethene	31
Chloroform	2.0 U
1,1,1-Trichloroethane	2.0 U
Carbon tetrachloride	2.0 U
Benzene	2.0 U

Parameter	Result
1,2-Dichloroethane	2.0 U
Trichloroethene	12
1,2-Dichloropropane	2.0 U
Bromodichloromethane	2.0 U
2-Chloroethyl vinyl ether	2.0 U
Methyl isobutyl ketone (MIBK)	2.0 U
cis-1,3-Dichloropropene	0.50 U
Toluene	2.0 U
trans-1,3-Dichloropropene	0.50 U
1,1,2-Trichloroethane	2.0 U
2-Hexanone	2.0 U
Tetrachloroethene	2.0 U
Dibromochloromethane	2.0 U
Chlorobenzene	2.0 U
Ethylbenzene	2.0 U
p/m-Xylene	4.0 U
o-Xylene	2.0 U
Styrene	2.0 U
Bromoform	1.4 J
1,1,2,2-Tetrachloroethane	2.0 U

cis-1,3-Dichloropropene and trans-1,3-Dichloropropene are reported to the method detection limit to meet reporting limits.

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	113	86-116
Toluene-d8	40	§ 87-111
4-Bromofluorobenzene	81	79-112

§ - Surrogate value outside of acceptable range.

J - Estimated value, below quantitation limit.

U - The analyte was analyzed for but not detected at the sample specific level reported.

N/A - Not Applicable

06/30/03 08:45



Blank Volatile Organics by GC/MS

Client: City of New Bedford
Project: Sullivan's Ledge
Client ID: Blank
Case: N/A SDG: N/A
Matrix: Water

Lab Code: MA00030
ETR: 0306155
Lab ID: VW062603B01
Associated Blank: N/A
Concentration Units: µg/L

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	06/26/03	5	5	1	MLB

Parameter	Result
Chloromethane	2.0 U
Vinyl chloride	2.0 U
Bromomethane	5.0 U
Chloroethane	2.0 U
Trichlorofluoromethane	2.0 U
1,1-Dichloroethene	1.0 U
Acrolein	20 U
Acetone	5.0 U
Carbon disulfide	2.0 U
Methylene chloride	5.0 U
Methyl tert-butyl ether (MTBE)	2.0 U
trans-1,2-Dichloroethene	2.0 U
1,1-Dichloroethane	2.0 U
Vinyl acetate	2.0 U
2-Butanone (MEK)	2.0 U
cis-1,2-Dichloroethene	2.0 U
Chloroform	2.0 U
1,1,1-Trichloroethane	2.0 U
Carbon tetrachloride	2.0 U
Benzene	2.0 U

Parameter	Result
1,2-Dichloroethane	2.0 U
Trichloroethene	2.0 U
1,2-Dichloropropane	2.0 U
Bromodichloromethane	2.0 U
2-Chloroethylvinyl ether	2.0 U
Methyl isobutyl ketone (MIBK)	2.0 U
cis-1,3-Dichloropropene	0.50 U
Toluene	2.0 U
trans-1,3-Dichloropropene	0.50 U
1,1,2-Trichloroethane	2.0 U
2-Hexanone	2.0 U
Tetrachloroethene	2.0 U
Dibromochloromethane	2.0 U
Chlorobenzene	2.0 U
Ethylbenzene	2.0 U
p/m-Xylene	4.0 U
o-Xylene	2.0 U
Styrene	2.0 U
Bromoform	2.0 U
1,1,2,2-Tetrachloroethane	2.0 U

cis-1,3-Dichloropropene and trans-1,3-Dichloropropene are reported to the method detection limit to meet reporting limits.

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	103	86-116
Toluene-d8	97	87-111
4-Bromofluorobenzene	96	79-112

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

06/30/03 08:45



Laboratory Control Sample Volatile Organics by GC/MS

Client: **City of New Bedford**
Project: **Sullivan's Ledge**
Client ID: **Laboratory Control Sample**
Case: **N/A** SDG: **N/A**
Matrix: **Water**

Lab Code: **MA00030**
ETR: **0306155**
Lab ID: **VW062603L01**
Associated Blank: **VW062603B01**
Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	06/26/03	5	5	1	MLB

Parameter	Conc.	% Recovery	% Recovery Limits
Chloromethane	20	99	70-130
Vinyl chloride	21	103	70-130
Bromomethane	25	125	70-130
Chloroethane	22	108	70-130
Trichlorofluoromethane	28	138 ^a	70-130
1,1-Dichloroethene	20	103	70-130
Acrolein	37	183 ^a	70-130
Acetone	21	107	70-130
Carbon disulfide	20	99	70-130
Methylene chloride	19	96	70-130
Methyl tert-butyl ether (MTBE)	20	100	70-130
trans-1,2-Dichloroethene	20	102	70-130
1,1-Dichloroethane	23	114	70-130
Vinyl acetate	20	101	70-130
2-Butanone (MEK)	20	102	70-130
cis-1,2-Dichloroethene	22	110	70-130
Chloroform	21	105	70-130
1,1,1-Trichloroethane	21	106	70-130
Carbon tetrachloride	22	108	70-130
Benzene	22	108	70-130
1,2-Dichloroethane	21	103	70-130
Trichloroethene	21	105	70-130
1,2-Dichloropropane	21	107	70-130
Bromodichloromethane	21	104	70-130
2-Chloroethylvinyl ether	21	106	70-130
Methyl isobutyl ketone (MIBK)	22	112	70-130
cis-1,3-Dichloropropene	22	108	70-130
Toluene	21	104	70-130
trans-1,3-Dichloropropene	21	106	70-130
1,1,2-Trichloroethane	22	108	70-130
2-Hexanone	22	112	70-130
Tetrachloroethene	22	108	70-130
Dibromochloromethane	21	106	70-130



Laboratory Control Sample Volatile Organics by GC/MS

Client: City of New Bedford
Project: Sullivan's Ledge
Client ID: Laboratory Control Sample
Case: N/A SDG: N/A
Matrix: Water

Lab Code: MA00030
ETR: 0306155
Lab ID: VW062603L01
Associated Blank: VW062603B01
Concentration Units: µg/L

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	06/26/03	5	5	1	MLB

Parameter	Conc.	% Recovery	% Recovery Limits
Chlorobenzene	21	104	70-130
Ethylbenzene	21	104	70-130
p/m-Xylene	43	108	70-130
o-Xylene	21	104	70-130
Styrene	21	103	70-130
Bromoform	20	102	70-130
1,1,2,2-Tetrachloroethane	22	108	70-130

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	102	86-116
Toluene-d8	100	87-111
4-Bromofluorobenzene	100	79-112

* - Value outside of QC Limits.
N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

06/30/03 08:45



Polychlorinated Biphenyls by GC/ECD

Client: **City of New Bedford**
Project: **Sullivan's Ledge**
Case: **N/A** SDG: **N/A**
Client ID: **Final Eff**
Matrix: **Water**

Lab Code: **MA00030**
ETR: **0306155**
Lab ID: **0306155-01**
Associated Blank: **PW070103B07**
Concentration Units: **µg/L**

Date Collected	Date Received	Date Extracted	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
06/26/03	06/26/03	07/01/03	07/05/03	1000	10	1	NLJr

Parameter

Result

Aroclor 1016	0.50 U
Aroclor 1221	0.50 U
Aroclor 1232	0.50 U
Aroclor 1242	0.50 U
Aroclor 1248	0.50 U
Aroclor 1254	0.50 U
Aroclor 1260	0.50 U

Surrogate	% Recovery	Acceptance Range (%)
Tetrachloro-meta-xylene	84	30-150
Decachlorobiphenyl	55	30-150

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

07/08/03 10:04



Quality Control Results Polychlorinated Biphenyls by GC/ECD

Client: City of New Bedford
Project: Sullivan's Ledge
Case: N/A SDG: N/A
Client ID: Method Blank
Matrix: Water

Lab Code: MA00030
ETR: 0306155
Lab ID: PW070103B07
Associated Blank: N/A
Concentration Units: µg/L

Date Collected	Date Received	Date Extracted	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	07/01/03	07/05/03	1000	10	1	NLJr

Parameter	Result
Aroclor 1016	0.50 U
Aroclor 1221	0.50 U
Aroclor 1232	0.50 U
Aroclor 1242	0.50 U
Aroclor 1248	0.50 U
Aroclor 1254	0.50 U
Aroclor 1260	0.50 U

Surrogate	% Recovery	Acceptance Range (%)
Tetrachloro-meta-xylene	77	30-150
Decachlorobiphenyl	85	30-150

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

07/08/03 10:03



Laboratory Control Sample Polychlorinated Biphenyls by GC/ECD

Client: City of New Bedford
Project: Sullivan's Ledge
Case: N/A SDG: N/A
Client ID: Laboratory Control Sample
Matrix: Water

Lab Code: MA00030
ETR: 0306155
Lab ID: PW070103L08
Associated Blank: PW070103B07
Concentration Units: µg/L

Date Collected	Date Received	Date Extracted	Analyst
N/A	N/A	07/01/03	NLJr

Parameter	Conc.	% Recovery	% Recovery Limits
Aroclor 1016	9.4	95	70-130
Aroclor 1260	9.4	94	70-130

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Tetrachloro-meta-xylene	70	30-150	
Decachlorobiphenyl	84	30-150	

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

07/08/03 10:04



Woods Hole Group

Environmental Laboratories

ANALYTICAL REPORT

Prepared for:

City of New Bedford

1105 Shawmut Avenue

New Bedford, MA 02746

Project: Sullivan's Ledge

ETR: 0306034

Report Date: June 27, 2003

Certifications and Accreditations

Massachusetts MA030

Connecticut PH-0141

New Hampshire 220602

Rhode Island 64

New Jersey MA015

Maine MA030

New York 11627

Louisiana 03090

Army Corps of Engineers

Department of the Navy

Florida E87814

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CASE NARRATIVE

Woods Hole Group Environmental Laboratories

ETR: 0306034
Project: Sullivan's Ledge

All analyses were performed according to Woods Hole Group's documented Standard Operating Procedures (SOPs), within holding time and with appropriate quality control measures except where noted. Blank correction of results is not performed in the laboratory for any parameter. Soil/sediment samples are reported on a dry weight basis unless otherwise noted.

Volatile Organics by GC/MS

1. Sample Final Eff. (0306034-02) has a recovery for the surrogate Toluene-d8 outside the acceptable QC range of 87-111% at 42% due to sample matrix interference.
2. Laboratory Control Sample, VW060903L14, has recoveries for Trichlorofluoromethane and Acrolein outside the acceptable QC range of 70-130% at 150% and 64%, respectively. Neither Trichlorofluoromethane nor Acrolein were not detected in the associated sample.

The enclosed results of analyses are representative of the samples as received by the laboratory. Woods Hole Group makes no representations or certifications as to the method of sample collection, sample identification, or transporting/handling procedures used prior to the receipt of samples by Woods Hole Group. To the best of my knowledge, the information contained in this report is accurate and complete.

Approved by:



Woods Hole Group Environmental Laboratories

Date:

6-27-03



Volatile Organics by GC/MS

Client: **City of New Bedford**
Project: **Sullivan's Ledge**
Client ID: **Final Eff.**
Case: **N/A** SDG: **N/A**
Matrix: **Water**

Lab Code: **MA00030**
ETR: **0306034**
Lab ID: **0306034-02**
Associated Blank: **VW060903B17**
Concentration Units: **µg/L**

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
06/04/03	06/04/03	06/09/03	5	5	1	MLB

Parameter	Result
Chloromethane	55
Vinyl chloride	2.0 U
Bromomethane	8.4
Chloroethane	6.1
Trichlorofluoromethane	2.0 U
1,1-Dichloroethene	1.0 U
Acrolein	20 U
Acetone	58
Carbon disulfide	2.0 U
Methylene chloride	5.0 U
Methyl tert-butyl ether (MTBE)	2.0 U
trans-1,2-Dichloroethene	2.0 U
1,1-Dichloroethane	2.0 U
Vinyl acetate	2.0 U
2-Butanone (MEK)	5.3
cis-1,2-Dichloroethene	2.0 U
Chloroform	2.0 U
1,1,1-Trichloroethane	2.0 U
Carbon tetrachloride	2.0 U
Benzene	2.0 U

Parameter	Result
1,2-Dichloroethane	2.0 U
Trichloroethene	2.0 U
1,2-Dichloropropane	2.0 U
Bromodichloromethane	2.0 U
2-Chloroethylvinyl ether	2.0 U
Methyl isobutyl ketone (MIBK)	3.0
cis-1,3-Dichloropropene	0.50 U
Toluene	2.0 U
trans-1,3-Dichloropropene	0.50 U
1,1,2-Trichloroethane	2.0 U
2-Hexanone	2.0 U
Tetrachloroethene	2.0 U
Dibromochloromethane	2.0 U
Chlorobenzene	2.0 U
Ethylbenzene	2.0 U
p/m-Xylene	4.0 U
o-Xylene	2.0 U
Styrene	2.0 U
Bromoform	2.0 U
1,1,2,2-Tetrachloroethane	2.0 U

cis-1,3-Dichloropropene and trans-1,3-Dichloropropene are reported to the method detection limit to meet reporting limits.

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	112	86-116
Toluene-d8	42	§ 87-111
4-Bromofluorobenzene	84	79-112

§ - Surrogate value outside of acceptable range.

U - The analyte was analyzed for but not detected at the sample specific level reported.

N/A - Not Applicable

06/11/03 14:39



Blank Volatile Organics by GC/MS

Client: City of New Bedford
Project: Sullivan's Ledge
Client ID: Blank
Case: N/A SDG: N/A
Matrix: Water

Lab Code: MA00030
ETR: 0306034
Lab ID: VW060903B17
Associated Blank: N/A
Concentration Units: µg/L

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	06/09/03	5	5	1	MLB

Parameter	Result	Parameter	Result
Chloromethane	2.0 U	1,2-Dichloroethane	2.0 U
Vinyl chloride	2.0 U	Trichloroethene	2.0 U
Bromomethane	5.0 U	1,2-Dichloropropane	2.0 U
Chloroethane	2.0 U	Bromodichloromethane	2.0 U
Trichlorofluoromethane	2.0 U	2-Chloroethylvinyl ether	2.0 U
1,1-Dichloroethene	1.0 U	Methyl isobutyl ketone (MIBK)	2.0 U
Acrolein	2.0 U	cis-1,3-Dichloropropene	0.50 U
Acetone	5.0 U	Toluene	2.0 U
Carbon disulfide	2.0 U	trans-1,3-Dichloropropene	0.50 U
Methylene chloride	5.0 U	1,1,2-Trichloroethane	2.0 U
Methyl tert-butyl ether (MTBE)	2.0 U	2-Hexanone	2.0 U
trans-1,2-Dichloroethene	2.0 U	Tetrachloroethene	2.0 U
1,1-Dichloroethane	2.0 U	Dibromochloromethane	2.0 U
Vinyl acetate	2.0 U	Chlorobenzene	2.0 U
2-Butanone (MEK)	2.0 U	Ethylbenzene	2.0 U
cis-1,2-Dichloroethene	2.0 U	p/m-Xylene	4.0 U
Chloroform	2.0 U	o-Xylene	2.0 U
1,1,1-Trichloroethane	2.0 U	Styrene	2.0 U
Carbon tetrachloride	2.0 U	Bromoform	2.0 U
Benzene	2.0 U	1,1,2,2-Tetrachloroethane	2.0 U

cis-1,3-Dichloropropene and trans-1,3-Dichloropropene are reported to the method detection limit to meet reporting limits.

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	106	86-116
Toluene-d8	98	87-111
4-Bromofluorobenzene	96	79-112

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

06/11/03 14:39



Laboratory Control Sample Volatile Organics by GC/MS

Client: City of New Bedford
Project: Sullivan's Ledge
Client ID: Laboratory Control Sample
Case: N/A SDG: N/A
Matrix: Water

Lab Code: MA00030
ETR: 0306034
Lab ID: VW060903L14
Associated Blank: VW060903B17
Concentration Units: µg/L

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	06/09/03	5	5	1	MLB

Parameter	Conc.	% Recovery	% Recovery Limits
Chloromethane	21	106	70-130
Vinyl chloride	22	112	70-130
Bromomethane	18	91	70-130
Chloroethane	25	123	70-130
Trichlorofluoromethane	30	150 ^a	70-130
1,1-Dichloroethene	22	108	70-130
Acrolein	13	64 ^a	70-130
Acetone	22	109	70-130
Carbon disulfide	22	111	70-130
Methylene chloride	20	98	70-130
Methyl tert-butyl ether (MTBE)	21	103	70-130
trans-1,2-Dichloroethene	21	104	70-130
1,1-Dichloroethane	23	113	70-130
Vinyl acetate	24	118	70-130
2-Butanone (MEK)	19	94	70-130
cis-1,2-Dichloroethene	22	108	70-130
Chloroform	21	107	70-130
1,1,1-Trichloroethane	22	108	70-130
Carbon tetrachloride	22	110	70-130
Benzene	22	109	70-130
1,2-Dichloroethane	20	102	70-130
Trichloroethene	20	101	70-130
1,2-Dichloropropane	21	107	70-130
Bromodichloromethane	21	104	70-130
2-Chloroethylvinyl ether	20	99	70-130
Methyl isobutyl ketone (MIBK)	19	96	70-130
cis-1,3-Dichloropropene	22	108	70-130
Toluene	21	104	70-130
trans-1,3-Dichloropropene	22	107	70-130
1,1,2-Trichloroethane	22	110	70-130
2-Hexanone	20	98	70-130
Tetrachloroethene	21	104	70-130
Dibromochloromethane	22	108	70-130

06/11/03 14:39



Laboratory Control Sample Volatile Organics by GC/MS

Client: City of New Bedford
Project: Sullivan's Ledge
Client ID: Laboratory Control Sample
Case: N/A SDG: N/A
Matrix: Water

Lab Code: MA00030
ETR: 0306034
Lab ID: VW060903L14
Associated Blank: VW060903B17
Concentration Units: µg/L

Date Collected	Date Received	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	06/09/03	5	5	1	MLB

Parameter	Conc.	% Recovery	% Recovery Limits
Chlorobenzene	20	102	70-130
Ethylbenzene	20	100	70-130
p/m-Xylene	42	104	70-130
o-Xylene	20	102	70-130
Styrene	20	99	70-130
Bromoform	21	106	70-130
1,1,2,2-Tetrachloroethane	22	108	70-130

Surrogate	% Recovery	Acceptance Range (%)
Dibromofluoromethane	104	86-116
Toluene-d8	101	87-111
4-Bromofluorobenzene	98	79-112

* - Value outside of QC Limits.
N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

06/11/03 14:39



Polychlorinated Biphenyls by GC/ECD

Client: City of New Bedford
Project: Sullivan's Ledge
Case: N/A SDG: N/A
Client ID: Final Eff.
Matrix: Water

Lab Code: MA00030
ETR: 0306034
Lab ID: 0306034-01
Associated Blank: PW060603B08
Concentration Units: µg/L

Date Collected	Date Received	Date Extracted	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
06/04/03	06/04/03	06/06/03	06/12/03	980	10	1	NLJr

Parameter	Result
Aroclor 1016	0.51 U
Aroclor 1221	0.51 U
Aroclor 1232	0.51 U
Aroclor 1242	0.51 U
Aroclor 1248	4.0
Aroclor 1254	0.51 U
Aroclor 1260	0.51 U

Surrogate	% Recovery	Acceptance Range (%)
Tetrachloro-meta-xylene	76	30-150
Decachlorobiphenyl	41	30-150

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

06/18/03 14:17



Quality Control Results Polychlorinated Biphenyls by GC/ECD

Client: City of New Bedford
Project: Sullivan's Ledge
Case: N/A SDG: N/A
Client ID: Method Blank
Matrix: Water

Lab Code: MA00030
ETR: 0306034
Lab ID: PW060603B08
Associated Blank: N/A
Concentration Units: µg/L

Date Collected	Date Received	Date Extracted	Date Analyzed	Sample Amount (ml)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	06/06/03	06/11/03	1000	10	1	NLJr

Parameter

Result

Aroclor 1016	0.50 U
Aroclor 1221	0.50 U
Aroclor 1232	0.50 U
Aroclor 1242	0.50 U
Aroclor 1248	0.50 U
Aroclor 1254	0.50 U
Aroclor 1260	0.50 U

Surrogate	% Recovery	Acceptance Range (%)
Tetrachloro-meta-xylene	82	30-150
Decachlorobiphenyl	79	30-150

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable



Laboratory Control Sample Polychlorinated Biphenyls by GC/ECD

Client: City of New Bedford
Project: Sullivan's Ledge
Case: N/A SDG: N/A
Client ID: Laboratory Control Sample
Matrix: Water

Lab Code: MA00030
ETR: 0306034
Lab ID: PW060603L05
Associated Blank: PW060603B08
Concentration Units: µg/L

Date Collected	Date Received	Date Extracted	Analyst
N/A	N/A	06/06/03	NLJr

Parameter	Conc.	% Recovery	% Recovery Limits
Aroclor 1016	10	104	70-130
Aroclor 1260	10	104	70-130

Surrogate	% Recovery	Acceptance Range (%)	N/A - Not Applicable
Tetrachloro-meta-xylene	79	30-150	
Decachlorobiphenyl	82	30-150	

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

06/18/03 12:13



Total Metals

Client: City of New Bedford
Project: Sullivan's Ledge
Case: N/A SDG: N/A
Client ID: Final Eff.
Matrix: Water

Lab Code: MA00030
ETR: 0306034
Lab ID: 0306034-01
Concentration Units: µg/L
Date Collected: 06/04/03
Date Received: 06/04/03

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Date Prepared	Analytical Method	Analyst
Arsenic	200	U	200	1	06/23/03	06/18/03	200.7	LCP
Cadmium	10	U	10	1	06/23/03	06/18/03	200.7	LCP
Chromium	20	U	20	1	06/23/03	06/18/03	200.7	LCP
Copper	20	U	20	1	06/23/03	06/18/03	200.7	LCP
Lead	200	U	200	1	06/23/03	06/18/03	200.7	LCP
Mercury	0.20	U	0.20	1	06/20/03	06/18/03	7470A	CAF
Molybdenum	100	U	100	1	06/23/03	06/18/03	200.7	LCP
Nickel	40	U	40	1	06/23/03	06/18/03	200.7	LCP
Silver	20	U	20	1	06/23/03	06/18/03	200.7	LCP
Zinc	36		20	1	06/23/03	06/18/03	200.7	LCP

U - The analyte was analyzed for but not detected at the sample specific level reported.

N/A - Not Applicable

06/24/03 16:48



Duplicate Quality Control Results Total Metals

Client: City of New Bedford
Project: Sullivan's Ledge
Case: N/A SDG: N/A
Client ID: Final Eff.
Matrix: Water

Lab Code: MA00030
ETR: 0306034
Lab ID: 0306034-01 DUP
Concentration Units: µg/L
Date Collected: 06/04/03
Date Received:

Parameter	Sample Result		Duplicate Result		Percent RPD	RPD Limit
Arsenic	200	U	200	U	N/A	20
Cadmium	10	U	10	U	N/A	20
Chromium	20	U	20	U	N/A	20
Copper	20	U	20	U	N/A	20
Lead	200	U	200	U	N/A	20
Mercury	0.20	U	0.20	U	N/A	20
Molybdenum	100	U	100	U	N/A	20
Nickel	40	U	40	U	N/A	20
Silver	20	U	20	U	N/A	20
Zinc	36		36		2	20

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. RPD values are reported based on the unrounded calculated result.

06/24/03 16:48



Matrix Spike Quality Control Results Total Metals

Client: City of New Bedford
Project: Sullivan's Ledge
Case: N/A SDG: N/A
Client ID: Final Eff.
Matrix: Water

Lab Code: MA00030
ETR: 0306034
Lab ID: See Below
Concentration Units: µg/L
Date Collected: 06/04/03
Date Received:

Lab ID:

0306034-01

0306034-01

Parameter	Sample		Matrix Spike		% Recovery Limits
	Conc.		Conc.	% Recovery	
Arsenic	200	U	960	96	75-125
Cadmium	10	U	430	87	75-125
Chromium	20	U	970	97	75-125
Copper	20	U	920	92	75-125
Lead	200	U	890	89	75-125
Mercury	0.20	U	7.7	96	75-125
Molybdenum	100	U	950	95	75-125
Nickel	40	U	920	92	75-125
Silver	20	U	410	103	75-125
Zinc	36		930	89	75-125

U - The analyte was analyzed for but not detected at the sample specific level reported.

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded results.

06/24/03 16:48



Preparation Blank Quality Control Results Total Metals

Client: City of New Bedford
Project: Sullivan's Ledge
Case: N/A SDG: N/A
Client ID: Preparation Blank
Matrix: Water

Lab Code: MA00030
ETR: 0306034
Lab ID: MW061803B09
Concentration Units: µg/L
Date Collected: N/A
Date Received: N/A

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Date Prepared	Analytical Method	Analyst
Arsenic	200	U	200	1	06/23/03	06/18/03	200.7	LCP
Cadmium	10	U	10	1	06/23/03	06/18/03	200.7	LCP
Chromium	20	U	20	1	06/23/03	06/18/03	200.7	LCP
Copper	20	U	20	1	06/23/03	06/18/03	200.7	LCP
Lead	200	U	200	1	06/23/03	06/18/03	200.7	LCP
Molybdenum	100	U	100	1	06/23/03	06/18/03	200.7	LCP
Nickel	40	U	40	1	06/23/03	06/18/03	200.7	LCP
Silver	20	U	20	1	06/23/03	06/18/03	200.7	LCP
Zinc	20	U	20	1	06/23/03	06/18/03	200.7	LCP

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

06/24/03 16:49



**Preparation Blank
Quality Control Results
Total Metals**

Client: **City of New Bedford**
Project: **Sullivan's Ledge**
Case: **N/A** SDG: **N/A**
Client ID: **Preparation Blank**
Matrix: **Water**

Lab Code: **MA00030**
ETR: **0306034**
Lab ID: **MW061803B10**
Concentration Units: **µg/L**
Date Collected: **N/A**
Date Received: **N/A**

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Date Prepared	Analytical Method	Analyst
Mercury	0.20	U	0.20	1	06/20/03	06/18/03	7470A	CAF

U - The analyte was analyzed for but not detected at the sample specific level reported.
N/A - Not Applicable

06/24/03 16:50



Laboratory Control Sample Quality Control Results Total Metals

Client: City of New Bedford
Project: Sullivan's Ledge
Case: N/A SDG: N/A
Client ID: Laboratory Control Sample
Matrix: Water

Lab Code: MA00030
ETR: 0306034
Lab ID: MW061803L02
Concentration Units: µg/L
Date Collected: N/A
Date Received: N/A

Parameter	Conc.	% Recovery	% Recovery Limits
Arsenic	890	89	80-120
Cadmium	420	83	80-120
Chromium	930	93	80-120
Copper	870	87	80-120
Lead	870	87	80-120
Molybdenum	890	89	80-120
Nickel	860	86	80-120
Silver	390	97	80-120
Zinc	840	84	80-120

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded results.

06/24/03 16:49



**Laboratory Control Sample
Quality Control Results
Total Metals**

Client: City of New Bedford
Project: Sullivan's Ledge
Case: N/A SDG: N/A
Client ID: Laboratory Control Sample
Matrix: Water

Lab Code: MA00030
ETR: 0306034
Lab ID: MW061803L03
Concentration Units: $\mu\text{g/L}$
Date Collected: N/A
Date Received: N/A

Parameter	Conc.	% Recovery	% Recovery Limits
Mercury	8.1	101	80-120

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded results.

06/24/03 16:50



Blank Inorganics

Client: City of New Bedford
Project: Sullivan's Ledge
Case: N/A SDG: N/A
Client ID: Blank
Matrix: Water

Lab Code: MA00030
ETR: 0306034

Lab ID: WW061103B13
Date Collected: N/A
Date Received: N/A

Parameter	Result	Qualifier	Reporting Limit	Dilution	Date Analyzed	Unit	Analytical Method	Analyst
Cyanide, Total	0.005	U	0.005	1	06/11/03	mg/L	9014	JAD

N/A - Not Applicable

U - The analyte was analyzed for but not detected at the sample specific level reported.

06/16/03 21:59



Laboratory Control Sample Inorganics

Client: **City of New Bedford**
Project: **Sullivan's Ledge**
Case: **N/A** SDG: **N/A**
Client ID: **Laboratory Control Sample**
Matrix: **Water**

Lab Code: **MA00030**
ETR: **0306034**

Lab ID: **WW061103L09**
Date Collected: **N/A**
Date Received: **N/A**

Parameter	Conc.	% Recovery	% Recovery Limits
Cyanide, Total	0.094	94	85-115

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded results.

06/16/03 21:59

Chain-of-Custody Record

**375 Paramount Drive
Raynham, MA 02767**

TEL: (508) 822-9300
FAX: (508) 822-3288

0306034

PAGE 1 OF 1

COMPANY INFORMATION						COMPANY'S PROJECT INFORMATION				SHIPPING INFORMATION				SAMPLE CONTAINERS (NOTE 4)											
Name: CITY OF NEW BEDFORD Address: W.W.W.D. 1105 SHAWMUT AVE. N.B. MA 02746 Telephone: 508 979-1556 Facsimile: 508 961-3054 Contact Name: JAMES RICCI						Regulatory Protocol: For the State of: Project Name: SULLIVAN'S LEDGE Project Number: P.O. # Sampler Name(s): D. SCIESZKA				Carrier: Airbill Number: Date Shipped: Quote #:				VOLUME	CONTAINER TYPE	PRESERVATIVE	LITER	BLENDS	SO ₂ M/L	PLASTIC HANDS	ZNO M/L	PLASTIC NaOH	VOLAS	G LBS	HCL
(TAT IS IN BUSINESS DAYS) CIRCLE TAT: 10 Day 5 Day 3 Day 48 Hr 24 Hr Other														(IF OTHER NOTE BELOW)											
WHG LAB #	SAMPLE ID (NOTE 1)	COLLECTION DATE TIME		COMPOSITE OR GRAB	MATRIX	ANALYSIS/REMARKS (NOTES 2, 3)	SAMPLER(S) INITIALS	NUMBER OF CONTAINERS																	
- 1	FINAL EFF.	6/3-4/03	0830	C	WARR	PCBs (8082)		2																	
↓	"	"	"	"	"	METALS - AR, CD, CR, CU, PD, MO, AG, NI, ZN, Hg		1																	
- 2	"	6/4/03	0840	G	"	CYANIDE																			
↓	"	"	"	"	"	VOC'S (8260)																			
Relinquished by: (signature)		DATE	TIME	Received by: (signature)		NOTES TO SAMPLER(S): (1) Limit Sample Identification to 6 characters, if possible; (2) Indicate designated Lab Q.C. sample and type (e.g.; MS/MSD/REP) and provide sufficient sample; (3) Field duplicates are separate sample; (4) e.g.; 40ml/glass/H ₂ SO ₄ . Notes to Lab: Flow - 70 255 619 Lamp # 4																			
Relinquished by: (signature)		DATE	TIME	Received by: (signature)																					
Relinquished by: (signature)		DATE	TIME	Received for Laboratory by: (signature)																					